Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A crystal ~~comprising at least 150 amino acid residues~~ of the Liver X receptor beta ~~LXR~~β ligand binding domain (LXRβ LBD) selected from the group consisting of:

(a) a crystal belonging to space group $P2_12_12_1$, wherein said LXRβ LBD consists essentially of the amino acid sequence from Leu220 to Glu461 or Gly213 to Glu461 of a human LXRβ shown in Figure 5a (SEQ ID NO: 1); and

(b) a crystal belonging to space group $P6_122$, wherein said LXRβ LBD comprises the amino acid sequence from Leu220 to Glu461 of a human LXRβ shown in Figure 5a (SEQ ID NO: 1), or a polypeptide comprising an amino acid sequence at least 95% identical to the sequence from Leu220 to Glu461 of human LXRβ (SEQ ID NO:1), wherein said polypeptide is capable of binding to an LXRβ ligand, said LXRβ ligand being chosen from N-(2,2,2-trifluoroethyl)-N-[4[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]-benzenesulfonamide, 3-(3-(2-chloro-3-trufluoromethylbenzyl-2,2-diphenylethylamino)propoxy)phenylacetic acid, 24(S),25-epoxycholesterol, or N-[1-(2-furanyl)ethyl]-N-4-pyridinyl-tricyclo[3.3.1.13,7]decane-1-carboxamide.

2. (Currently Amended) ~~A~~ The crystal according to claim 1, wherein the LXRβ LBD crystal belonging to space group $P6_122$ ~~comprising~~ comprises the amino acid sequence from Leu220 to Glu461 of a human LXRβ shown in Figure 5a (SEQ ID NO: 1). ~~or an amino acid sequence having at least 95% identity with the sequence and which encodes for a LXRβ ligand binding domain~~.

3. (Currently Amended) ~~A~~ The crystal according to claim 1, further comprising N-(2,2,2-trifluoroethyl)-N-[4[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]-benzenesulfonamide bound to the LXRβ LBD. ~~the entire LXRβ ligand binding domain.~~

4. (Currently Amended) ~~A~~ The crystal according to claim 1 or 3, wherein said crystal belongs to space group $P2_12_12_1$ and has the unit cell dimensions a = 59 +/- 3 Å, b = 100 +/- 5 Å, c = 176 +/- 3 Å, or a = 58.7 Å, b = 103.3 Å, c = 176 Å, wherein $\alpha = \beta = \gamma = 90°$. ~~produced using a sequence including helix 12 of LXRβ.~~

5. (Currently Amended) ~~A~~ The crystal according to claim 1 or 3, wherein said crystal belongs to space group $P6_122$ and has the unit cell dimensions a = b = 58.7 Å, c = 293.8 Å, $\alpha = \beta = 90°$, $\gamma = 120°$. ~~usable in X-ray crystallography.~~

6. (Currently Amended) ~~A~~ The crystal according to claim 1 or 3, further comprising 3-(3-(2-chloro-3-trufluoromethylbenzyl-2,2-diphenylethylamino)propoxy)phenylacetic acid bound to the LXRβ LBD. ~~including a ligand bound to LXRβ or a portion thereof.~~

7. (Currently Amended) ~~A~~ The crystal according to claim 6, wherein said crystal belongs to space group $P6_122$ and has the unit cell dimensions a = 59 +/- 3 Å, b = 59 +/- 3 Å, c = 294 +/- 3 Å, or a = 58.7 Å, b = 98.9 Å, c = 175.8 Å, wherein $\alpha = \beta = 90°$, $\gamma = 120°$. ~~in which the ligand is T0901317, GW3965 or any other ligand that binds with an affinity of IC_{50} < 1000 nM to the internal LXRβ binding cavity.~~

8. (Currently Amended) A crystal of the Liver X receptor beta ligand binding domain (LXRβ LBD)~~LXRβ LBD~~ belonging to the space group $P2_12_12_1$ and having the unit cell dimensions a = 59 +/- 3 Å, b = 100 +/- 5 Å, c = 176 +/- 3 Å, $\alpha = \beta = \gamma = 90°$.

9. (Currently Amended) A crystal of Liver X receptor beta ligand binding domain (LXRβ LBD) ~~LXRβ LBD~~ belonging to the space group $P6_122$ and having the unit cell dimensions α = 59 +/- 3 Å, b= 59 +/- 3 Å, c = 294 +/- 3 Å, $\alpha = \beta = 90°$, $\gamma = 120°$.

10. (Currently Amended) A crystal of Liver X receptor beta ligand binding domain (LXRβ LBD) ~~LXRβ LBD~~ in complex with a coactivator peptide (~~TIF2~~ NR box 1 of TIF2) belonging to the space group $P2_12_12$ and having the unit cell dimensions a = 89 +/- 3 Å, b = 91 +/- 3 Å, c = 131 +/- 3 Å, $\alpha = \beta = \gamma = 90°$.

11. (Previously Presented) A crystal according to claim 1, having a resolution determined by X-ray crystallography of better than 3.6 Å.

12. (Original) A crystal according to claim 11 having a resolution determined by X-ray crystallography of better than 2.9 Å.

13. – 28. (Canceled)

29. (Currently Amended) A crystallized molecule or molecular complex comprising a binding pocket defined by the ~~structure~~ structural coordinates of human Liver X receptor beta ~~LXRβ~~ ligand binding domain (LXRβ LBD) comprising amino acid residues Ser242, Phe268, Phe271, Thr2n, Leu274, Ala275, Ser278, Ile309, Met312, Leu313, Glu315, Thr316, Arg319, Ile327, Phe329, Leu330, Tyr335, Phe340, Leu345, Phe349, Ile350, Ile353, Phe354, His435, Gln438, Va1439, Leu442, Leu449, Leu453, and Trp457, according to ~~the co-ordinate tables~~ the structural coordinates of the complex of LXRβ LBD and 3-(3-(2-chloro-3-trufluoromethylbenzyl-2,2-diphenylethylamino)propoxy)phenylacetic acid as shown in Table 2, or a homologue of said molecule or molecular complex wherein said homologue has a root mean square deviation form the backbone atoms of said amino acids of not more than 1.5 Å.

30. (Currently Amended) A crystallized molecule or molecular complex comprising a binding pocket defined by the structural coordinates of human Liver X receptor beta ~~composition comprising at least 150 amino acid residues of the~~ ~~LXRβ~~ ligand-binding domain (LXR β LBD) comprising amino acid residues Ser242, Phe268, Phe271, Thr2n, Leu274, Ala275, Ser278, Ile309, Met312, Leu313, Glu315, Thr316, Arg319, Ile327, Phe329, Leu330, Tyr335, Phe340,

Leu345, Phe349, Ile350, Ile353, Phe354, His435, Gln438, Val439, Leu442, Leu449, Leu453, and Trp457, according to the complex LXRβ LBD and N-(2,2,2-trifluoroethyl)-N-[4[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]-benzenesulfonamide as shown in Table 2, or a homologue of said molecule or molecular complex having a root mean square deviation form the backbone atoms of said amino acids of not more than 1,5 Å.

31. (Previously Presented) An isolated protein consisting essentially of the amino acid sequence shown from amino acid 220 to amino acid 461 in Figure 5a (SEQ ID NO: 1) or the sequence shown in Figure 5b (SEQ ID NO: 2).

32. (Original) An isolated protein according to claim 31, additionally comprising a tag, such as a his-tag.

33. – 34. (Canceled)

35. (Previously Presented) An isolated protein having an amino acid sequence identical to the amino acid sequence used in a crystal according to claim 1.

36. – 39. (Canceled)

40. (New) A crystal of the Liver X receptor beta ligand binding domain (LXRβ LBD) in complex with a coactivator peptide (NR box 1 of TIF2), wherein:

said crystal belongs to space group $P2_12_12$; and

said LXRβ LBD comprises the amino acid sequence from Leu220 to Glu461 of a human LXRβ shown in Figure 5a (SEQ ID NO: 1), or a polypeptide having an amino acid sequence at least 95% identical to the sequence from Leu220 to Glu461 of a human LXRβ (SEQ ID NO:1), wherein said polypeptide is capable of binding to an LXRβ ligand, said LXRβ ligand being chosen from N-(2,2,2-trifluoroethyl)-N-[4[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]-benzenesulfonamide, 3-(3-(2-chloro-3-trufluoromethylbenzyl-2,2-diphenylethylamino)propoxy)phenylacetic acid, 24(S),25-epoxycholesterol, or N-[1-(2-

furanyl)ethyl]-N-4-pyridinyl-tricyclo[3.3.1.13,7]decane-1-carboxamide Liver X receptor beta ligand binding domain (LXRβ LBD).

41. (New) The crystal of LXRβ LBD of claim 40, wherein the LXRβ LBD comprises the amino acid sequence from Leu220 to Glu461 of a human LXRβ shown in Figure 5a (SEQ ID NO: 1).

42. (New) The crystal of LXRβ LBD of claim 41, said crystal having space group $P2_12_12$ and having the unit cell dimensions a = 89 +/- 3, b = 91 +/- 3, c = 131 +/- 3, $\alpha = \beta = \gamma = 90°$.

43. (New) The crystallized molecule or molecular complex of claim 29 or 30, wherein said binding pocket was resolved by molecular replacements using the structure of a thyroid hormone receptor as a search model.

44. (New) The crystallized molecule or molecular complex of claim 29, wherein the complex of LXRβ LBD and 3-(3-(2-chloro-3-trufluoromethylbenzyl-2,2-diphenylethylamino)propoxy)phenylacetic acid has the structural coordinates according to Table 2, or a homologue of said molecule or molecular complex having a root mean square deviation form the backbone atoms of said amino acids of not more than 1.5 Å.

45. (New) The crystallized molecule or molecular complex of claim 30, wherein the complex of LXRβ LBD and N-(2,2,2-trifluoroethyl)-N-[4[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]-benzenesulfonamide has the structural coordinates according to Table 2, or a homologue of said molecule or molecular complex having a root mean square deviation form the backbone atoms of said amino acids of not more than 1.5 Å.